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Consumer attitudes behind organic foods perception: An illustration in a Spanish area.

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CONSUMER ATTITUDES BEHIND ORGANIC FOODS PERCEPTION: AN ILLUSTRATION IN A SPANISH AREA.

Abstract.

The notable growth experienced by organic agriculture in Spain, has not been accompanied by a similar development in the consumption of organic foods, with most of the organic agricultural output being exported. This study focuses in analyzing Spanish consumer's attitude versus organic foods, in order to identify the factors that influence the demand. For this purpose, 130 surveys are conducted among consumers in a medium-sized city in Spain and processed using different statistical analysis, determining the level of knowledge about these products, consumer's shopping habits, and criteria, which support or dissuade the consumption of these products.

Keywords:

organic food marketing, consumer perception, consumer attitudes, food quality.

JEL: Q13

1. Introduction

In spite of the fact that until recently it could have been said that organic agriculture was a sporadic technique limited to only a few countries, the boom it has experienced in the last few years has led to a radically different situation, so that, now this technique is practised in almost all the countries of the world and is currently at a stage of growing development.

Evidently, the European Union is not indifferent to this trend, as the figures which reflect the growth in the land cultivated using this type of technique, show. Thus, the agricultural land registered as organic, or under conversion has increased from 886.000 ha in 1994, to 4,792,381 ha in 2002, in the EU-15, and to a total amount of 5,292,285, in the EU-25. (European Union. Directorate General for Agriculture, 2004).

In Spain, the evolution of this technique follows the same pattern, although at a notably greater rate. In only a decade, the area has multiplied by 171, going from 4,235 ha in 1991, to 725,254 ha in 2003 (Ministerio de Agricultura, Pesca y Alimentación, 2004).

The Spanish and European authorities have played an important role in this process by promoting the development of this practice as a technique within the framework of sustainable production, which contributes to achieve the most important objectives of the Common Agricultural Policy (CAP), to harmonize food production with the conservation of non-renewable resources and the protection of the environment.

This objective becomes even more important at the beginning of the new millennium. Thus, the compulsory fulfilment of a series of basic regulations in matters concerning the environment has been established, with the granting of direct aid dependent on the fulfilment of these regulations. Furthermore, with the introduction of agro environmental measures in rural development programs, which have become the mainstay of the CAP, these policies will probably help to promote organic agriculture.

Nevertheless, we must not forget that the role played by organic agriculture as a method of sustainable production, is only one of the facets in understanding this growing evolution, in which, other factors such as consumers' concern about the quality and safety of foods must also be taken into account.

Although organic products now, occupy an important place in Spain with regard to the confidence consumers have in them, still a quarter of all consumers have never tried them (Instituto de empresa, Fundación Grupo Eroski, 2003) with the bulk of production being exported.

The present study focuses in this subject. Through the data coming from different surveys, developed in the year 2003, in a city located in the North of Spain, different variables affecting consumer's attitudes are identified. Objectives are presented in the following point, later the precedence of the data and the methodology used, are described, and finally the results and conclusions are exposed.

2. Objectives

Within this framework, this study aims to find out more about Spanish consumers' habits in the north of Spain.

To achieve this initial objective, the study has been broken down into the following secondary objectives:

- Analyse consumers' attitudes towards organic foods.
- Determine the decisive aspects that distinguish organic products.
- Determine the factors that influence the decision to buy.
- Determine the variables that support or dissuade consumers when buying an organic food.

3. Material and Methods

3.1. Data

Data from 130 surveys conducted among Spanish consumers in the city of Leon, situated in the North of Spain, have been used to carry out this study. This geographical location was chosen due to the absence of previous studies carried out in this area and the choice of the city was especially interesting, as Leon is a medium-sized city, that also has an average level of consumption. According to the study carried out by the Eroski Foundation (Instituto de empresa, Fundación Grupo Eroski, 2003), the big cities (from 200,000 to 500,000 inhabitants), make up the nuclei where organic products are sold the least, whereas towns with fewer than 50,000 inhabitants, make up the nuclei where a higher level of consumption has been detected.

3.2. Methodology

Once the objectives of this study had been defined, the corresponding questionnaire was designed based on a series of one-answer questions and other multi-answer questions classified into several blocks to find out:

- Socio-demographic characteristics.
- Level of knowledge about the product.
- Shopping habits.
- Attitude towards the product.

Subsequently, the size of the sample was selected using the formula that corresponds to simple random sampling for populations with over 100,000 inhabitants and a confidence level of 95% (Grande and Abascal, 1995):

$$n = \frac{4pq}{e^2} \quad (1)$$

Where:

$p = q = 0,5$ (values corresponding to the most unfavourable case).

e = error.

Different sample sizes were tested and finally a sample comprising 130 individuals was chosen, which means an error rate of 8.7%.

This sample was then stratified according to the age and sex variables. The resulting distribution can be seen in Table 1:

Table 1: Distribution of the sample according to age and sex variables.

Source: Drawn up by the authors.

	15-29 years old	30-49 years old	> 50 years old
Total	31	43	56
Men	16	20	24
Women	15	23	32

The questionnaire was then codified to transform the responses into numeric variables in which the multiple responses were codified using dichotomic variables. This data file was processed using the SPSS (1999) program, and subsequently, an analysis of frequency, calculus of basic statistics and finally a bivariate analysis of averages were carried out. This technique enables a sample to be segmented using a classification variable with the purpose of finding significant differences in the response to another variable in the different groups (Fernández, 2002). In order to find out if these differences are statistically significant, an analysis of variance must be performed (Rivera and Sánchez, 2002). Finally, a correlation analysis was carried out in order to determine the degree and the direction of the association found between some of the variables.

4. Results and discussion

4.1. Profile of the sample studied

The sample is made up of a total of 130 individuals whose main socio-economic characteristics are shown in Table 2.

Table 2: Socio-economic characteristics of the sample surveyed.
Source: Drawn up by the authors.

Profession	Frequency	Percentage
wage-earner	25	19,2
student	16	12,3
housewife	16	12,3
civil servant	54	41,5
self-employed	13	10,0
pensioner	6	4,6
Studies	Frequency	Percentage
university	77	59,2
secondary	37	28,5
primary	14	10,8
none	2	1,5
Income	Frequency	Percentage
over 30,000 Euros	45	34,6
from 12,000 to 30,000 Euros	66	50,8
Less than 12,000 Euros	19	14,6

Since the sample was stratified based on the age and sex variables, with a proportional fixing being carried out on the distribution of the total number of selected individuals, the stratification presented by the sample with regard to these two variables totally corresponds to the characteristics of the inhabitants of Leon. Thus, a slight predominance of women (53,8%), in comparison to men (46,2%) can be observed, with special emphasis on the stratum made up of over 50-year-olds. The average age of the people surveyed was 50, and the average size of the households 3.22.

With regard to the profession of the people surveyed, the high percentage of civil servants (41.5%) must be highlighted, as well as their level of education, since over half have university degrees. As for their income level, it can be said that the people surveyed belong to a social class with a medium-high income (85,4% with a family income of over 12,000 €, and 34,6% of these with an income of over 30,000 €).

4.2. Knowledge of organic products

The first thing that attracts our attention is the high percentage of people surveyed who believe they lack a suitable knowledge and information since, as Figure 1 shows, only 30% considered their level of knowledge and/or information to be good. Percentage similar to the one found by Rivera (2002), in his study carried out in the city of Valencia.

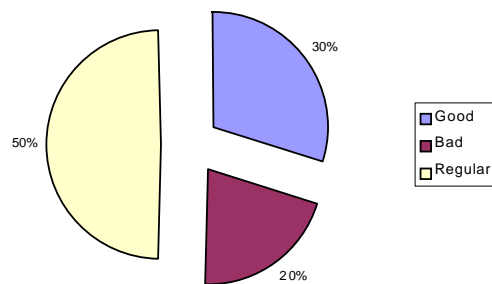


Figure 1: Level of knowledge and information. Source: Drawn up by the authors.

With regard to the concept the people surveyed have about organic foods, as table 3 shows, there is a predominant trend to identify these products with foods that are produced without using synthesis insecticides and fertilizers and to associate them with environment-friendly production techniques. In this case, the results contrast with those found by other authors (García and Fernández, 1994) in studies in big cities such as Madrid, where the predominant trend is to identify them with healthier and more natural products.

Table 3: Concept of Organic Food. Source: Drawn up by the authors.

Organic foods are:	Count	Pct of Responses	Pct of cases
More natural foods	32	14,9	24,6
Healthier foods	22	10,2	16,9
Produced without chemical products	108	50,2	83,1
Produced with environment-friendly techniques	50	23,3	38,5
Artisan foods	3	1,4	2,3
Total responses	215	100	165,4

However, special emphasis must be placed on the fact that only 40% consider the Regulating Council for Organic Agriculture's label necessary in order to identify the guarantee for this type of production (this percentage is, however, higher than the one detected among the inhabitants of a larger city, as is the case of Pamplona (Albardiaz, 1998), as well as the decrease of this percentage to 27% in the case of another type of label. This situation demonstrates the lack of knowledge about the control procedures and legislative protection that both Spanish and European authorities have been carrying out in order to guarantee the quality of these products. This fact is likewise demonstrated if we analyse the importance consumers attach to the possibility of fraud and lack of knowledge, which become two important deterrents to the purchase of organic products.

With regard to the type of food purchases, most responses indicate that fruit and vegetables, together with cereals, are the foods chosen by the majority of consumers.

4.3. Shopping habits

Only 6% of the people surveyed claim to buy this type of product on a regular basis compared with 28% who have never bought these foods. However, most of the people surveyed (66%) occasionally buy them, with 11,5% claiming that buying these products depends on their availability in the outlets where they normally do their food shopping.

With regard to the establishment chosen to do their shopping, consumers look for establishments that offer quality, an adequate range and are close to where they live. More specifically, consumers who use organic products, generally buy this type of product in specialist stores (herbalist's stores, stores selling dietary products) and in superstores (Table 4).

The variables that carry the most weight when deciding whether or not to buy organic products are health and quality, in that order. Both are extrinsic variables and are connected to the image the consumer associates with these products. This demonstrates the wisdom of Spanish and European policies in making safety and quality key instruments in agricultural policies.

Table 4: Purchasing establishment. Source: Drawn up by the authors.

Establishment	Count	Pct of Responses	Pct of Cases
Superstores	40	30,8	42,6
Specialist stores	41	31,5	43,6
Street markets	12	9,2	12,8
Supermarkets	10	7,7	10,6
Retail outlets	10	7,7	10,6
Fairs	16	12,3	17
Producer	1	0,8	1,1

As can be seen in Table 5, there is a high degree of consensus among consumers with regard to the importance attached to these variables, greater than that in the remaining variables. Other important factors are guarantees and respect for the environment, both extrinsic variables. There are also intrinsic variables, such as flavour, although the degree of consensus among consumers in this case is lower than that of the four previous variables. These results show a similarity between the habits of consumers from Leon and those of other consumers from different parts of Spain (Rivera and Brugarolas, 2003).

Table 5: Assessment of the criteria that influence the purchase of organic products. Scale (1-5).

Source: Drawn up by the authors.

	Quality	Health	Respect for environment	Flavour	Guarantee	Level of chemical waste	Origin
Average	4,62	4,68	4,07	4,05	4,19	3,68	2,59
Mode	5	5	5	5	5	5	1
Typ.dev.	0,663	0,682	0,998	1,026	0,941	1,289	1,351
Variance	0,440	0,466	0,995	1,052	0,885	1,662	1,825
Minimum	2	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5

Finally, the least importance is attached to the level of chemical waste and geographical origin variables, which show a greater degree of dispersion with regard to the level of consumers' agreement. However, it should be pointed out that all the factors analyzed obtained an average score of over 2.5, on a scale of 1 to 5.

With regard to the variables that exert the greatest power of dissuasion in the purchase of organic products (Table 6), the variable "high prices" is to be found in first place, obtaining the highest degree of consensus among the consumers surveyed, followed by the difficulty in finding these products and a limited range. This fact seems to confirm the importance of this factor since it has already been observed in other areas by other authors in their respective studies^[12]. Nevertheless, all the factors have obtained scores of over 3 on a scale of 1-5, which indicates their negative influence on the final decision to purchase.

Table 6: Assessment of the dissuasive criteria in the purchase of organic products. Scale (1-5).

Source: Drawn up by the authors.

	Scarcity	Availability	Limited range	Posibility of fraud	Lack of knowledge
Average	3,88	3,62	3,45	3,33	3,10
Trend	5	5	3	3	3
Typ. Dev.	1,192	1,215	1,168	1,377	1,467
Variance	1,421	1,477	1,365	1,897	2,153
Minimum	1	1	1	1	1
Maximum	5	5	5	5	5

Subsequently, a correlation analysis demonstrated that consumers who regard quality as an important criterion when buying organic products, also regard health, flavour and guarantee to be

important. At the same time, the consumer who considers the level of chemical waste to be important, also pays more attention to the repercussion of production techniques on the environment or the product's guarantee. Concern regarding fraud acquires more importance the greater the consumer's lack of knowledge, the greater the difficulty in finding products and the more limited the range of products available in the markets.

With regard to the variables that can deter the consumer from buying organic products, those who attach importance to the high price also attach importance to the lack of availability on the market and the limited range of products, with a direct correlation also existing between the last two variables.

Finally, the consumer was asked to evaluate different aspects related to organic products. In order to assess these attributes, a Likert scale has been used, assessing sentences from 1-5 according to their meaning: positive sentences have been assessed from 1 (totally disagree) to 5 (totally agree), whereas the negative sentences have been assessed from 1 (totally agree) to 5 (totally disagree). As it is shown in Table 7, the consumer is seen to be favourable towards organic products, with the average score for organic foods being 3.46 out of 5.

The most valued aspects are: the respect of these techniques for the environment, their relationship with health, the fact that they are more natural foods or contain less dangerous and toxic waste, with the highest degree of agreement among consumers being found for the first three variables.

Likewise, the following aspects of the products are regarded as being negative: the scarcity and difficulty in finding them on the market. The scarcity of these products stands out as the variable that has obtained the highest degree of agreement among consumers.

On the other hand, a clearly positive result is that consumers do not regard these products as a fashion, nor a fraud, nor do they believe them to have a worse appearance than conventional products.

Table 7: Consumers' attitudes towards organic products.

Source: Drawn up by the authors.

Attributes	Average	Typ. Dev.
They are healthy.	4.277	0.965
They are more natural.	4.269	0.994
They are of a higher quality.	3.623	1.029
They have a better flavour/smell.	3.215	1.168
They are more environment-friendly.	4.385	0.910
They offer a higher level of guarantee and control.	3.446	1.121
They produce less toxic and dangerous waste.	4.108	1.228
They are more expensive.	1.623	0.800
They don't last as long.	2.985	1.233
They don't look as good.	3.231	1.303
They are a fraud	3.731	1.173
They are a fashion	3.815	1.147
They are worse than conventional ones	3.777	1.122
They are more difficult to find	2.077	1.125

4.4. Differences in shopping habits

Having observed the importance of the different variables in the decision to purchase, as well as the consumers' attitude towards organic products, we wonder if this behavior differs according to the degree of knowledge that the consumer has about organic products, and also among the different types of buyer.

The variance analysis resulting from assessing the importance given to the different variables that influence the decision to purchase according to the type of buyer, enable us to conclude that there are significant differences (With an associated significance equal to or less than 0.05) among the different types of buyer and the weight of the lack of knowledge when deciding whether to buy.

These differences can be seen in Table 8. As expected, consumers who have never bought organic products attach a greater importance to the lack of information, whereas it is the regular buyers who attach the least importance to it.

Table 8: Differences between the average scores given for the lack of knowledge variable, according to the type of buyer. Source: Drawn up by the authors.

Dependent variable	(I) Type of buyer	(J) Type of buyer	Difference between averages (I-J)	Typical error	Sig.	Interval of confidence to 95%	
						Lower limit	Upper limit
Lack of knowledge	1.00	2.00	1.17	0.269	0.001	0.51	1.84
		3.00	2.00	0.529	0.006	0.69	3.31
	2.00	1.00	-1.17	0.269	0.001	-1.84	-0.51
		3.00	0.83	0.500	0.281	-0.41	2.06
	3.00	1.00	-2.00	0.529	0.006	-3.31	-0.69
	2.00	-0.83	0.500	0.281	-2.06	0.41	

1 = non-buyer; 2 = occasional buyer; 3 = regular buyer.

Similarly, a check was made to find out if there were differences between the decision to buy and the consumers' demand for the logo and quality label variables. Statistically significant differences were found, on a level equal to or less than 0.05, for the variables: Guarantee, level of chemical waste and lack of knowledge, according to whether or not consumers demanded the label. The value of F, for these variables, was: 4.5 for the guarantee variable, 5.638 for the level of chemical waste variable and 13.971 for the lack of knowledge variable. The associated significance was lower than 0.05 for all of them.

As it can be seen in Table 9, consumers who demand the Regulatory and Control Agency's label, as a form of identification for organic production, attach more importance to the product's guarantee and to the presence of toxic and dangerous waste, whereas a greater influence of the lack of knowledge variable was observed among those that did not demand this label.

Table 9: Differences between the average scores for different variables according to type of buyer. Source: drawn up by the authors.

Variable	Demand label	Average	Typical deviation	Typical error	Interval of confidence for average to 95%		Minimum	Maximum
					Lower limit	Upper limit		
Guarantee	No	4.05	0.938	0.106	3.84	4.26	2	5
	Yes	4.40	0.913	0.127	4.15	4.66	1	5
	Total	4.19	0.941	0.083	4.03	4.36	1	5
Level of chemical waste	No	3.46	1.276	0.144	3.17	3.75	1	5
	Yes	4.00	1.252	0.174	3.65	4.35	1	5
	Total	3.68	1.289	0.113	3.45	3.90	1	5
Lack of knowledge	No	3.47	1.365	0.155	3.17	3.78	1	5
	Yes	2.54	1.448	0.201	2.14	2.94	1	5
	Total	3.10	1.467	0.129	2.85	3.35	1	5

Subsequently, by means of a correlation analysis, the existence of a direct relationship between demand for the organic agriculture logo and the guarantee or level of chemical waste variables is shown, and an inverse relationship is shown between the demand for the label and the lack of knowledge variable. This correlation is statistically significant, with a level of significance equal to or lower than 0.05.

4. Conclusions

Therefore, although organic products have become more widespread among Spanish consumers in the last years, they still occupy a very low position. Nevertheless, the existence of a large number of consumers who are occasionally attracted towards these products can now be seen, although the sector has still been unable to consolidate this segment.

The price is still the most important variable in limiting the purchase of these products, which doubtlessly continues to be an important determinant, especially if we take into account the current economic recession and the consumers' tendency to cut down on quality food shopping in these situations.

Other variables that curb the development of consumption as a regular practice are: difficulty in finding these products on the market and the limited range in commercial establishments.

Lack of knowledge and information is one of the variables that plays one of the most important roles in consumption as a result of the number of consumers who associate them exclusively with healthier or more natural foods, without knowing the true meaning of organic production as laid down by European regulations (Council Regulation (EEC) No 2092/91 of 24 June 1991), (Council Regulation (EC) No 1804/1999). The fact that most consumers do not demand the logo of the Regulating Councils as a guarantee of organic production proves this point.

Thus, an intense promotion and informative campaign is required, so that, consumers can get to know the true meaning of organic products, their advantages and the regulation procedures that guarantee their quality in order to avoid possible fraud.

At the same time, control measures and the number of inspections must be increased in order to guarantee the quality of these foods, especially in a new market.

Guaranteeing a suitable price for the consumer is another of the market challenges that has to be met and is closely linked to the problems and profit margins involved in the commercial distribution of these products.

5. References

- European Union. Directorate General for Agriculture (ed.) (2004). Agriculture in the European Union. Statistical and Economic information 2003. http://www.europa.eu.int/comm/agriculture/agrista/2003/table_en/42492.pdf (accessed February 2004).
- Ministerio de Agricultura, Pesca y Alimentación, Secretaría General Técnica (ed.) (2004). Hechos y cifras de la agricultura, la pesca y la alimentación en España (7ª edición revisada, actualizada y ampliada) Madrid: Centro de Publicaciones, Ministerio de Agricultura, Pesca y Alimentación.
- Instituto de empresa, Fundación grupo Eroski (2003). La actitud ante los productos ecológicos. Informe Barómetro del consumidor 2003. <http://barometro.fundaciongruperoski.es/web/es/2003/capitulo8/pag1.php> (accessed February 2004).
- Grande, I. and Abascal, E. (eds.) (1995). Fundamentos y técnicas de investigación comercial. Madrid: ESIC Editorial.
- SPSS (1999), SPSS Base 10.0 Manual del usuario. Chicago, IL: SPSS Inc.
- Fernández, A. (ed.) (2002). Investigación y Técnicas de mercado. Madrid: ESIC Editorial.
- García, G. (ed.) (2002). Investigación comercial. Madrid: ESIC Editorial.
- Rivera, L.M. and Sánchez, M. (2002). Marketing de productos ecológicos. In García, J.M. (ed.), Mediterráneo económico. Colección estudios socioeconómicos: La agricultura mediterránea en el siglo XXI. Almería: Caja Rural Intermediterránea. Cajamar, 159-176.
- García, R., Fernández de Soto, A. (1994). Caracterización del consumidor actual de los productos de la agricultura ecológica en Madrid. Paper presented at the First Congress of the Spanish Society of Organic Agriculture, September 1994, Toledo.
- Albardiaz, M.A. (1998). Estudio de los frenos al desarrollo de la agricultura ecológica a través de las variables del consumo. Distribución y Consumo Febrero/Marzo 1998: 112-119.
- Rivera, L.M. and Brugarolas, M. (2003). Estrategias comerciales de los productos ecológicos. Distribución y consumo Enero/Febrero 2003: 15-22.
- Sánchez, M., Etxaniz, M., Tekelioglu, I. (1997). Análisis de las preferencias en el consumidor de productos de agricultura ecológica. Estudios sobre consumo 41: 49-63.
- Council Regulation (EEC) No 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs (OJ L 198,22.7.1991,p.1).

http://www.europa.eu.int/eur-lex/en/consleg/pdf/1991/en_1991R2092_do_001.pdf (accessed February 2004)

Council Regulation (EC) No 1804/1999 of 19 July 1999 supplementing Regulation (EEC) No 2092/91 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs to include livestock production (OJ L 222,24.8.1999,p.1).

http://www.europa.eu.int/eur-lex/en/oj/dat/1999/l_222/l_22219990824en00010028.pdf (accessed February 2004)